R E P O R T R E S U M E S

ED 018 167 56 FL 000 813

A FURTHER SEARCH FOR ELEMENTS OF TOMORROW'S CLASSROOM. DENVER-STANFORD PROJECT ON THE CONTEXT OF INSTRUCTIONAL TELEVISION, REPORT NUMBER 12.

BY- HAYMAN, JOHN L., JR. JOHNSON, JAMES T., JR.
STANFORD UNIV., CALIF.INST. FOR COMMUN. RES.

REPORT NUMBER NDEA-7A-354 PUB DATE JUL 64
DENVER BOARD OF EDUCATION, COLO., SCH. DIST. NO. 1
GRANT OEG-7-14-1380-083
EDRS PRICE MF-$0.25 HC-$1.60 38P.

DESCRIPTORS- *LANGUAGE INSTRUCTION, *SPANISH, *INSTRUCTIONAL MATERIALS, *TEACHING TECHNIQUES, INSTRUCTIONAL TELEVISION, COURSE CONTENT, GRADE 6, FLES TEACHERS, AUDIOLINGUAL METHODS, PROGRAMED INSTRUCTION, EXPERIMENTAL TEACHING, CULTURAL AWARENESS, CLASS ACTIVITIES, TAPE RECORDERS, ELECTRONIC EQUIPMENT, INSTRUCTIONAL AIDS, INSTRUCTIONAL IMPROVEMENT, INSTRUCTIONAL INNOVATION, LANGUAGE SKILLS, PATTERN DRILLS (LANGUAGE), *FLES, DENVER STANFORD PROJECT, DENVER, STANFORD,

THIS FINAL PHASE OF THE PROJECT (FOR THE ORIGINAL STUDY SEE FL 000 147) WAS AN ATTEMPT TO REACH BEYOND THE FORMAL EXPERIMENTAL DESIGN TO ANSWER A NUMBER OF PEDAGOGICAL QUESTIONS NOT EASILY EXPLORED WITHIN ITS LIMITATIONS. SEVEN TEACHERS WERE GIVEN FREE REIN TO SUPPLEMENT THE INSTRUCTIONAL METHODS ALREADY IN USE FOR SIXTH-GRADE SPANISH PUPILS. THESE "TOMORROW'S CLASSROOM" (TC) TEACHERS PROVED MOST IMAGINATIVE AND PRODUCTIVE, AND DEMONSTRATED THE VALUE OF THE CLASSROOM TEACHER MORE DRAMATICALLY THAN DID ANY OTHER PHASE OF THE PROJECT. THE VARIETY OF INSTRUCTIONAL TECHNIQUES AND MATERIALS DEVISED BY EACH, AND THEIR TEACHING BACKGROUNDS, ARE PRESENTED IN CAREFUL DETAIL IN THE MAIN SECTION OF THIS REPORT. TEST RESULTS (A STATISTICAL ANALYSIS IS GIVEN) SHOW THE VALUE OF THIS TYPE OF INSTRUCTION--THE TC PUPILS OUTPERFORMED THE REGULAR GROUPS IN READING AND WRITING BY A FACTOR OF 25 PERCENT. THE PROJECT YIELDED DETAILED RECOMMENDATIONS ABOUT (1) THE NEED FOR VARIETY IN AUDIO-LINGUAL AND READING-WRITING INSTRUCTION, FOR AN ELIMINATION OF AN ARTIFICIAL SEPARATION OF THE TWO, AND (2) THE VALUE OF TAPE RECORDERS, PROGRAMED INSTRUCTION, INTER-PUPIL COMMUNICATION, AND CULTURAL STUDY. FOR COMPANION DOCUMENTS SEE ALSO FL 000 820 AND FL 000 821. (RW)

ED018167

A FURTHER SEARCH FOR ELEMENTS OF TOMORROW'S CLASSROOM

• JOHN L. HAYMAN, JR.
• JAMES T. JOHNSON, JR.

FL 000 813

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Denver Public Schools • Stanford University

RESEARCH ON THE CONTEXT OF INSTRUCTIONAL TELEVISION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

A FURTHER SEARCH FOR ELEMENTS OF TOMORROW'S CLASSROOM

by

John L. Hayman, Jr.
James T. Johnson, Jr.

DENVER-STANFORD PROJECT
ON THE CONTEXT OF INSTRUCTIONAL TELEVISION

****

School District Number One
City and County of Denver
Denver, Colorado

Institute for Communication Research
Stanford University
Stanford, California

Report Number 12
July 1964

FL 000 813

SUMMARY

The Problem

During 1962-63, the last year of active research in the Denver-Stanford project, seven teachers were removed from the formal experimental design and were given a relatively free hand in teaching sixth grade Spanish. These teachers, like all others in the project, used the televised Spanish lessons as the basic instruction for their pupils, but otherwise they employed any materials and methods they desired during classroom instruction time. These teachers were known as the Tomorrow's Classroom (TC) group.

The purpose of the TC study was to go beyond the formal experimental design in the search for elements of tomorrow's classroom. It was informal in the sense that the ideas it produced could not be tested statistically one by one, though the production of imaginative ideas was the goal. Such ideas could add substance and enrichment to the main body of findings from the project and could thus make the final product more useful.

Results

The TC teachers kept detailed records of their activities, and met with project personnel periodically through the school year to discuss these activities and their opinions of them. Through these discussions it became clear that they did not depart radically from the instructional methods used in the regular experimental groups. What they did, rather, was to use all of the methods at hand plus several others they devised on their own. Thus they built on and added to the regular program.

They were quite inventive, however, and served well the purpose of producing imaginative ideas. The activities of each of the TC teachers are detailed in the report which follows. These activities differed considerably from teacher to teacher, of course, and comparisons of test results do not show the value of any single activity though they show the overall value of the type of instruction offered. Pupils of the TC teachers performed significantly better than pupils of other teachers on both listening comprehension and reading and writing tests. The differences on reading and writing were particularly large, in the vicinity of 25 percent.

Among the more interesting ideas produced in the TC study were the following: 1) automated instruction should be an integral part of a larger program rather than a separate entity, and, in line with this use of it, pupils should complete a specific number of frames each lesson period and should not proceed at their own rates; 2) the written and spoken language should be taught together so far as possible with artificial separation of the two skills eliminated; 3) communication between pupils in the second language should be encouraged through devices which allow the pupils to teach each other, so to speak; 4) foreign language can be made more interesting and meaningful by using it in other subject areas such as geography, reading, and arithmetic.

In addition to such ideas as these, and specific techniques for implementing them, the TC study demonstrated some more general notions about tomorrow's classroom. It showed, for example, that some adjustment of instruction to meet the widely varying needs of individual students will continue to be needed. Mass instructional devices, or at least the television, automated instruction, phonograph records, etc., which we have now, can be extremely valuable teaching aids. They can produce a great deal of learning, but the final product falls far short of what it should and could be if the instruction is not individualized.

To individualize instruction, of course, a classroom teacher is needed, and the TC study has shown the value of the teacher more dramatically, perhaps, than any other phase of the Denver-Stanford project. It has shown that, aside from materials and methods per se, the teacher exerts great influence on pupils and the amount they learn in school.

A FURTHER SEARCH FOR ELEMENTS OF TOMORROW'S CLASSROOM

by

John L. Hayman Jr.
James T. Johnson, Jr.

The Denver Public Schools and Stanford University's Institute for Communication Research were engaged for four years in a joint research project on the context of instructional television. The purpose of the project was to learn how instructional television can best fit into the total teaching situation. A substantial amount of research has established that television is a very effective teaching medium. Ways of combining it with other educational activities must now be considered, and the Denver-Stanford project was a beginning effort in this direction. Kenneth E. Oberholtzer was principal investigator for the Denver Public Schools and Wilbur Schramm was principal investigator for Stanford University. This is one of a number of project progress reports.

I. INTRODUCTION

As the final year of active research in the Denver-Stanford Project approached, the project staff became more and more aware that many interesting and pertinent questions could not be answered through the formal research design. More questions had been generated as the project progressed than had been stated or even anticipated in the first place. This was not surprising, for research always illuminates new directions for investigation.

The formal research design for the third and final year (1962-63) incorporated many issues that had been raised during the previous two years, but it finally reached its limit of complexity. The resources at hand simply did not allow formal experimental treatment of every interesting idea. This situation, unavoidable as it was, was discomforting to project personnel; we had stated in the beginning that our purpose was to move "a little closer to the

classroom of the future." While we did not suppose we were actually going to discover tomorrow's classroom, we were reluctant to limit the distance we could travel toward it because of the somewhat adventitious restrictions of the research design.

Wilbur Schramm, the principal investigator for Stanford University, supplied the inspiration for a further search, outside of the formal experimental design, for additional ingredients of the classroom of the future. "Why not," he asked, "let a half-dozen or so of the more creative teachers have a relatively free hand in conducting their classroom instruction?" Records of these teachers activities could be kept, and a comparison of their pupils' performances against those of pupils in the controlled experimental design would show the value of the additional activities. This idea was received enthusiastically by the project staff, and plans were laid immediately for its implementation. Since the teachers selected would be carrying the project a step beyond the formal experimental design, they were labeled the "Tomorrow's Classroom Group" (TC for short).

II. SELECTION OF AND RESTRICTIONS ON THE TC TEACHERS

The Denver-Stanford Project was concerned with teaching Spanish to fifth and sixth grade pupils in the Denver Public Schools. Fifth grade Spanish in Denver is entirely audio-lingual, that is, it deals only with the listening and speaking skills. Sixth grade Spanish continues the audio-lingual instruction and also begins the development of reading and writing skills. In the project, the basic instruction was supplied through televised Spanish lessons. Even though television was thus the basic instructional device, it should be emphasized that--as its formal name implies--the object of the project was to investigate the total context of the televised lessons. The intent was to discover classroom and home activities which would increase the amount of Spanish pupils learned.

During the three years of the project, teachers at each grade level were assigned randomly to research groups. These groups followed activities which were carefully designed to test hypotheses regarding the learning of Spanish, and were as closely controlled as possible under field research conditions. In other words, freedom of action was definitely discouraged; the validity of results depended on each teacher using the instructional method assigned. Otherwise, extraneous and unidentified factors could influence the findings. Random assignment, of course, assured that the teachers were similar from group to group, that is, that those in each group were a representative sample, or cross-section, of elementary school teachers in the Denver Public Schools.

For the Tomorrow's Classroom study, which was to be conducted at sixth grade, project personnel decided to do away deliberately with the selection process which provided representative teachers. Also, it was agreed that the strict control of the teachers' classroom activities should be abandoned. In fact, the latter dictated the former; the TC study would prove useful only if the teachers involved were inspired and creative in their selection of instructional procedures. In other words, unusual rather than representative teachers were desired.

The presence of some 180 sixth grade Spanish teachers made hand picking of the TC group impractical, for project personnel simply did not know most of the teachers well enough to judge their qualifications accurately. The best solution seemed to be to allow self selection. Therefore, at a meeting of all sixth grade Spanish teachers held prior to the beginning of the 1962-63 school year, the proposed TC treatment was explained in detail and teachers interested in participating were asked to volunteer. Some 50 of the 180 teachers volunteered, and the seven actual participants were chosen from this 50 by random selection.

While this selection process obviously did not provide the seven best qualified sixth grade Spanish teachers, it assured that those chosen had higher than average interest in the project, had ideas as to how the instruction might be improved, and were willing to try these ideas under close scrutiny and intensive evaluation.

The latter two points were assured because project personnel were careful to explain in detail the restrictions which would be binding on TC teachers before they were invited to volunteer. It was explained that for purposes of evaluation their activities would have to be clearly identified and defined--this meant keeping careful records. Finally, the TC teachers were to meet as a group with project personnel several times during the school year, and at these meetings they were to detail their individual activities and to discuss the types of procedures which seemed to produce the best results. It was also hoped that they might agree, so far as possible, on needed changes in and additions to the Spanish program.

After the TC teachers were selected, they were called to a special meeting the third week of school. The purpose of the TC study was reviewed, the above restrictions were discussed in greater detail, and future meeting dates were set. The teachers then returned to their classrooms, and the study was under way. Project personnel gained considerable confidence in the TC procedure during that first meeting as the teachers clearly showed the inventiveness and enthusiasm which was to characterize them throughout the year. The interplay of high interest in the task at hand, of a challenging assignment, and of receiving special attention was evident.

III. ACTIVITIES OF THE TC TEACHERS

The TC treatment proved to be most productive, both in terms of number

of different activities tried and of ideas generated. Each of the teachers developed a variety of instructional techniques and materials, and each was ready and willing to discuss his activities with project personnel and the other teachers involved. The separate activities followed by each of the TC teachers will be described shortly.

The activities fall into the following five general areas according to intended function: audio-lingual drill, which includes the face-to-face, teacher-directed instruction designed to improve the listening and speaking skills; use of electronic aids, including record players and various types of single- and dual-channel tape recorders and also designed to improve listening and speaking skills; reading and writing practice, which includes all instruction designed to improve directly the reading and writing skills; cultural activities, consisting of those activities designed to increase understanding and appreciation of the cultures of Spanish-speaking countries; and motivational activities used primarily for variety and interest. Actual practices followed by each TC teacher will be classified according to these areas, with the inclusion of a sixth category, other, for the one or two items which do not seem to fit. Before beginning this classification, however, definitions of some of the terms to be used seems in order:

Automated Spanish is a set of four books designed to teach Spanish reading and writing through the programed instruction approach. The books, consisting of some 2,600 frames, were prepared by a member of the project staff (1).

La Luz is a weekly newspaper published in Spanish and intended for students in about their second year of instruction (2).

Leemos el Español is an instructional booklet designed for teaching Spanish reading and writing by the traditional teacher-directed approach. It was prepared by the author of Automated Spanish and covers the same subject matter as the automated material.

The outside reading books used were elementary-level Spanish readers that were obtained commercially; they were not prepared especially for use in the project. The graded readers for beginning Spanish, Children of the Americas, are an example of this material.

Project records are a series of 33 1/3 rpm phonograph records prepared by a member of the project staff and designed to complement the other instructional activities.

Reflection machines are special dual-channel tape recorders purchased for experimental use in the project. The unique feature of these machines is their ability to repeat automatically, at intervals of five seconds to several minutes, anything the operator has said. This is accomplished through a loop of tape, and it eliminates many of the mechanical difficulties of regular tape recorders.

Regular teachers were those who taught the pupils other subjects in addition to Spanish; special teachers taught only Spanish to the particular sixth grade class and did not have those pupils at any other time of the day.

Some general information about each TC teacher and a listing of some of the practices followed is shown below:

TEACHER A

> Teacher A had her class for Spanish only, and was thus classified as a "special teacher." She was one of the few in the study, and the only one in the TC group, who had a college minor in Spanish. This, along with the two foreign language workshops she had attended, her two years of prior Spanish teaching experience, and her fourteen years of general teaching experience, placed her far above the median in all three categories.

Audio-lingual drill:

- Structure drill was used to follow-up the TV lessons. Most of the drills used were taken from the teacher's guide.
- Appropriate films and filmstrips were used to provide listening practice.

Electronic aids:

- The single- and dual-channel tape recorders and the record player were scheduled so that each child had the opportunity for extensive use of these devices--both during and outside of school hours.
- Stories such as "Gallinita Roja" were recorded on a single-channel tape recorder, acted out by the pupils, and illustrated.
- Other recordings, both commercial and teacher-made, were used.

Reading and writing:

- Both Automated Spanish and Leemos el Español were used extensively in reading and writing instruction.
- A special reading and writing workbook was prepared by the teacher.

Cultural activities:

- Cultural aspects were stressed by integrating social studies units into the Spanish program. Spanish influence in the United States and in the rest of the western hemisphere was discussed and stressed.

Variety and interest:

- Many songs and fast-moving games were used.
- Stories related to project materials were taken from the Children of the Americas series.

Other:

- Grammar was discussed when pupils asked specific questions related to it. The discussion was generally restricted to two aspects of grammar--cognates with special emphasis on similarities between Spanish and English word roots; and simple conjugations, with emphasis on similarities and differences between Spanish and English.

TEACHER B

Teacher B was classified as a "regular teacher" in that he had the pupils for one or more other subjects during the day in addition to Spanish. He studied German in high school and had some classes in Spanish while in college but not enough to qualify for a language minor. With six years of elementary school foreign language teaching experience, he was one of the veterans in the field. He had taught in the Denver schools for ten and one-half years, and had some language teaching experience in the Army prior to his employment in Denver.

Electronic aids:

- The single-channel tape recorder was used for such class activities as recording and playing back Spanish songs.

- The dual-channel tape recorder was used on a more individual basis, with, for example, teacher-made tapes drawn from material in Leemos el Español and Children of the Americas series. It was also used to relate the spoken to the written Spanish. The teacher mimeographed written lessons and prepared corresponding oral lessons for the tape recorder.
- The record player was used with the entire class for such things as learning songs and reviewing material on the project records.
- Teacher B had the single-channel Reflection machine. The 15-second cartridge, which would record up to 15 seconds of material before it began playing it back, was especially useful for phrases, greetings, short sentences, and the like. The one-minute cartridge was used for longer sentences, and the 7½ minute cartridge was especially good for complete paragraphs and short stories. Special lessons were prepared by the teacher throughout the year, and the pupils were scheduled so that each was able to go through each lesson on the machine.

Reading and writing:

- The children enjoyed using Automated Spanish in their reading and writing instruction.
- Leemos el Español was usually used once a week, on Wednesdays. The teacher read the lesson from the book to the children. Questions and answers were read aloud in Spanish and explained. Then the pupils wrote answers in Spanish. The following Wednesday the papers from the previous week were discussed and corrected before beginning the next lesson.
- Outside reading books, especially the Children of the Americas series, were useful in broadening the scope of the pupils' reading experience Also, the pupils enjoyed reading the stories in these books.
- Dictation was used extensively as a reading and writing instruction method. Twenty-five words, phrases, and/or short sentences would be written on the blackboard prior to the lesson. After class convened, the teacher would pronounce each word and the children would write it on a piece of paper. Then different children would be asked questions about the material on the blackboard. After a few minutes, the material on the blackboard would be covered, and the teacher would dictate the material four times as follows. The first dictation would give the words exactly as they were on the blackboard, the second would stress syllables, the third would use the material in complete sentences, and the fourth would be a repeat of the first.
- A reading center, containing books and Spanish-English dictionaries was set up at the beginning of the year. The center was handled as a library with check-out cards for each book.

Cultural activities:

- A special Christmas program was prepared by the Spanish class. The children made costumes and used the record player to learn songs from other countries. This program aroused a great deal of interest among the pupils.

Variety and interest:

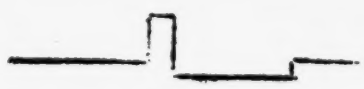
- Notebooks were prepared by the children. Pictures were cut from magazines and used to illustrate nouns, verbs, and the other parts of speech, and eventually were used to illustrate sentences, paragraphs, and complete stories. These notebooks seemed to interest girls more than boys.

TEACHER C

Teacher C had his class for Spanish only. He was of Spanish-American heritage and spoke Spanish natively. In addition to growing up in a home where Spanish was spoken, he also studied the language for two years in in high school, during one summer workshop, and in two summer NDEA institutes. Thus, he was a fluent linguist, and, with ten years of general teaching experience, was well grounded in pedagogy as well.

Audio-lingual drill:

- A variety of structure drills--including item and number substitution--replacement drills, and counting drills, was used.
- Dialogues on pictures and dramatizations were memorized. These dialogues were taken from the TV lessons, the records, Leemos el Español, and some were prepared by the teacher.
- Intonation drills were used in an attempt to allow visualization of intonation patterns. Charts similar to the following were prepared:



Buenos días, señor.

- Conversation drills, restricted to familiar vocabulary, were used.
- Sentence construction drills proved useful. Children were shown pictures which had previously been used in the dialogue practice and were asked to construct sentences describing them.

Electronic aids:

- Pronunciation exercises were used for some of the more difficult sounds. The dual-channel tape recorder proved useful in preparing and administering these drills.

Reading and writing:

- Reading and writing instruction was limited largely to work in Leemos el Español. At the beginning of the year, the teacher would read the material to the children and then let them write answers to the questions in Spanish. Later in the year, the prior reading by the teacher was not necessary.
- A few short stories were read to the class.
- Children were allowed to read outside stories on their own if they desired, but special reading was not assigned.
- Selected articles from Spanish magazines and newspapers were read to the class.

Cultural activities

- Cultural aspects were stressed. Spanish-speaking countries, together with their capitals and flags, were identified on maps. This was done in conjunction with social studies and was arranged through the cooperation of the social studies teacher.

Variety and interest:

- Songs, dances, and games were used at times. These usually came immediately after the TV lesson or at the end of the classroom lesson.
- Notebooks of poems, songs, maps, and the like were prepared. Some art was included in assignments for the children. Pictures of a family, a house, the beach, etc. would be drawn or cut from magazines, be pasted in the notebook, and be identified in Spanish.
- The Spanish class occasionally took a walk through the school and around the neighborhood. Pupils and teacher would converse in Spanish during these walks. In this way, objects, people, and types of activities would be identified and discussed.
- A special program which depicted some of the activities of the year was prepared at the end of school. Parents were invited to attend this program.

TEACHER D

Teacher D had his class for other subjects in addition to Spanish. He had taught in the Denver schools for six years, his total formal language background consisted of one year of college German, and his only experience with Spanish had come as he viewed the television lessons and learned along with his pupils during the previous three years. Thus, teacher D would be much more nearly representative of the total teacher group than the other six TC teachers.

Audio-lingual drill:

- Dialogues were memorized and acted out by the pupils.
- Structure drills were used extensively in the face-to-face instruction. These were also recorded and played back.

Electronic aids:

- Several dialogues were recorded with the single-channel recorder and played back to the class. This increased interest.
- Vocabulary review was often recorded so that pronunciation could be checked by the entire class.
- The single-channel tape recorder was used to record class discussions, individual performances, skits, dramatizations, and the like.
- The dual-channel tape recorder was placed on a table at the back of the room and used by children on an individual basis. A time limit of five minutes was set so that a few children would not monopolize use of the machine. Special lessons were prepared for the dual-channel recorder during the first semester. Thereafter, it was used for enrichment.

- A record player with headsets was also placed at the back of the room, and it was used on an individual basis by the children. The Spanish records were kept with the record player.
- Teacher D had the dual (that is, two recording and playback stations) Reflection machine for about two and one-half months at the end of the year. The teacher used the machine as an oral automated instruction device for which he prepared special lessons. A schedule was prepared to assure that each child would have an opportunity to use the machine. The teacher reported that he experienced difficulty enforcing this schedule because the boys wanted to work with the machine all of the time.

Reading and writing:

- Automated Spanish was used entirely for homework for about the first third of the school year. This arrangement was found to be unsatisfactory, and was abandoned in favor of using the books in the classroom. Here the automated materials proved to be very effective.
- Leemos el Español was also used in the classroom and proved popular with the pupils. Some of the vocabulary was difficult, and the teacher translated if necessary to clarify meanings, through translation was generally avoided.
- A reading center was maintained at the rear of the room. Books, including the Children of the Americas series, were kept there. Copies of the newspaper, La Luz, were also in the reading center. Children used the reading center on a voluntary basis.
- Spanish spelling tests were given occasionally.
- Some oral reading was employed to help correct pronunciation and to establish the connection between written and spoken Spanish.

Variety and interest:

- An interest center was maintained in the room. Children were encouraged to add to this center by bringing things from home. Included were a number of souvenirs from Latin American countries. Pictures with Spanish labels were also placed in the interest center.
- The bulletin board was used for Spanish. A new arrangement of the bulletin board was prepared for each new unit in the Spanish series, and the enthusiasm of the pupils in preparing these arrangements made this appear to be an excellent motivational device.
- Many dramatic presentations in Spanish were prepared by the pupils.
- Spanish games were played to provide variation and sustain interest.

Other:

- Teacher D was the regular classroom teacher for his pupils, and he felt that the resulting opportunity to use Spanish in teaching other subjects was quite valuable.

TEACHER E

Teacher E had her class for Spanish only. Her seventeen years of teaching experience in Denver, and the additional six years in other districts, provided her with much more pedogogical experience than most of the teachers. In addition, her Spanish-American background allowed her to speak Spanish fluently although her formal training in Spanish was limited to two years in high school. As one of the teachers who started teaching Spanish at the inception of the study, she had two years of Spanish teaching background prior to the TC experiment.

Audio-lingual drill:

- Enunciation and pronunciation were stressed. Children would repeat words, phrases, and complete sentences after the teacher and after each other. This was sometimes done with individual pupils and sometimes with the group as a whole.

- In a special drill to improve general usage, the teacher would give a child a Spanish word, and the child would respond orally by using the word in a complete Spanish sentence.

- Verb patterns were studied through the use of complete sentences.

Electronic aids:

- The record player was used on a regular, though limited, basis. One class period every two weeks was devoted to use of the record player, and the project records were used at this time.

- The single-channel tape recorder was used to aid in pronunciation.

Reading and writing:

- The pupils worked through Automated Spanish in specific sections. Then the automated material was reviewed by having the children read the sentences orally. This provided repetition and also helped establish the connection between written and spoken Spanish.

- Work in Leemos el Español seemed to be greatly enjoyed. The teacher found this book useful in locating individual weaknesses.

- Short stories were read in the outside reading books. Limited translation was used if needed to clarify meanings.

- Whenever a new word was introduced, it was written on the blackboard and was used in complete sentences which were also written on the blackboard. The word and sentences were then read aloud to establish the connection between written and spoken Spanish.

- Some additional vocabulary, which the teacher felt would be especially interesting to the pupils, was introduced. This included the names of streets, cities, and rivers in Colorado and the western United States.

TEACHER F

Teacher F taught his class other subjects in addition to Spanish. With nine years of general teaching experience, he was slightly more experienced than the average teacher in this category; however, his one year of high school Spanish and one year of prior Spanish teaching experience were quite typical. In addition, he attended one of the summer foreign language workshops.

Audio-lingual drill:

- Structure drills were used extensively. The teacher found that toy telephones were quite useful in conducting the structure drills. When using the telephones, the children lost most of their shyness.
- Verb drills were used to illustrate conjugations and meanings.
- Magnet boards and flannel boards were used for illustrations. Figures of such things as school equipment, familiar things around the home, people, items illustrating new vocabulary, and characters in such stories as the Red Hen and Goldilocks were illustrated with the boards.
- Picture flash cards were used to illustrate words as they were presented, conduct speed drill, allow oral practice by describing pictures in Spanish, and to make up and tell stories in Spanish about the pictures.
- Magazine pictures were used in much the same manner as flash cards and seemed most useful in aiding the pupils to visualize new concepts and learn new vocabulary.
- The pupils bought coloring books and used them to identify familiar objects in Spanish.

Electronic aids:

- The single-channel tape recorder was used to allow pupils to listen to stories and language patterns previously recorded by the teacher. Spelling drills were also conducted through use of the single-channel recorder.
- Project and other Spanish recordings were obtained by the teacher and were played for the class.
- Teacher F made rather ingenious use of the dual-channel tape recorder. He prepared tape "loops" by cutting short sections of tape and joining the ends. These loops could be placed in the recorder--which sits vertically when in use--and would hang below the recording and playback mechanism by virtue of their own weight. Thus recorded material would automatically play back. In this way the recorder functioned in much the same manner as the single Reflection machine.

Reading and writing:

- Automated Spanish was used in two ways. First, specific sections of the books were assigned and the children completed these sections in class. The children were then allowed to use the books on a free time basis and thus review the material covered in class.

- Oral reading was used extensively to establish the connection between written and spoken Spanish.
- Spelling and penmanship drills in Spanish were used.
- The children were allowed to read the outside Spanish books in some of their free reading time during the day.
- The teacher occasionally dictated Spanish words and sentences which the pupils copied.
- Some songs, poems, and short stories were memorized.

Cultural activities:

- Written reports, in Spanish, were prepared on various aspects of Spanish speaking countries.
- The children brought in stamps, books, post cards, and money from Latin American countries. Spanish influence in these countries and in the United States was discussed.

Variety and interest:

- A doll house, complete with figures and furniture, was used to illustrate familiar objects in Spanish and to set up dramatic presentations. This activity proved very interesting to the children.
- Pupils wrote short skits in Spanish and then acted them out.
- Spanish plays were learned and used in school activities.
- A Spanish display was prepared for the school's carnival.
- The class occasionally took walks through the school and neighborhood and described in Spanish the objects and activities observed.

Other:

- Spanish was used in other classes throughout the day. For example, some arithmetic and geography lessons were conducted in Spanish and written directions for other subjects were prepared in Spanish.

TEACHER G

Teacher G had her class for Spanish only. With twenty-nine years of teaching experience she was the most experienced of the TC teachers and of the total group. Her language background consisted of two years of high school Spanish, one summer workshop, and one year of Spanish teaching experience.

Audio-lingual drill:

- Following most of the TV lessons, the children were allowed to ask questions concerning the telecast they had just seen. Many confusing points were cleared up through this process.
- The similarity of many Spanish and English words was stressed. This was a regular activity, for example, during the discussion time after TV lessons.

- The children brought magazine pictures and the teacher used these as guides for short dialogues and dramatizations. The picture in each case would pertain to the unit being taught or being reviewed.
- Verb and subject agreement was discussed briefly, though functional usage continued to be stressed. Conjugation of verbs was also discussed at the request of the pupils.

Electronic aids:

- The dual-channel tape recorder was used to some extent, though scheduling difficulties prevented its use as much as the teacher would have liked.
- "Sing and Teach Spanish" records were used. Instead of writing words of the songs on the blackboard, the teacher wrote them on pieces of tagboard and placed them in a pocket chart. As the words of a song were learned, the cards were turned around so that the words could not be seen. The children enjoyed playing the role of "teacher" in this activity and selecting the words to be "blanked out."

Reading and writing:

- Leemos el Español was used extensively. Since some of the children had difficulty recognizing the printed word, the teacher found it helpful to read most of the stories aloud before the children opened their books. The children would then read the material and work the exercises on their own.
- The outside reading books were checked out by pupils for use either at home or at school during free reading time.
- Automated Spanish was used intermittently according to the interest the children showed in it.
- Vocabulary was reviewed with teacher-made flashcards which were placed in a pocket chart. From these flashcards, the children would select articles to pack in a suitcase, choose a means of travel, and the like.
- A short spelling list was used to emphasize and review difficult items--such as the natural confusion between j and h, n and ñ, l and ll.

Cultural activities:

- Teacher G taught Spanish 25 minutes each day during the second semester. This was an extension in time since the curriculum called for Spanish only three days a week. Cultural aspects of Spanish were stressed on the additional two days. This stress on culture was correlated with social studies units on Mexico and South America, and it included commercial films on these Latin-American areas.
- The teacher and children shared slides and movies taken on trips to Spanish speaking countries.

Variety and interest:

- During the first semester, some 20 members of the class and the teacher spent one noon each week eating lunch together and conversing entirely in Spanish. This activity was discontinued the second semester because of a scheduling difficulty.

- A presentation in Spanish was given at a PTA meeting. In this presentation, the children demonstrated how Spanish was studied in the classroom. Interest of both parents and pupils was increased.
- The children adapted some of the games they play in English to Spanish.
- Each day the teacher tried to find some special event to discuss in Spanish--a birthday, the weather, or something else of current interest.

After considering the aforementioned activities, one is impressed by the variety and quality of ideas represented in the work of the TC teachers. They were indeed a fertile source of more elements of tomorrow's classroom. At the same time, one is struck by the similarity of many of the things they did. This is not surprising, however, when their work is considered in the context of the total project.

The TC teachers, though they were given a relatively free hand, had at their disposal a number of activities which had proved effective or were being tried experimentally because they seemed potentially effective. They used most of these activities, and the result was that instructional procedures of the TC group resembled those of the regular experimental groups to a considerable extent. This point can be best illustrated, perhaps, by listing the procedures followed by the different regular experimental groups at sixth grade. The televised lessons were viewed from 12:45 p.m. to 1:00 p.m. each Tuesday and Thursday by each sixth grader. All pupils in the regular (or non-TC) groups had 15 minutes of eclectic audio-lingual practice immediately following each TV lesson, and all had 30 minutes of reading and writing instruction each Wednesday. Otherwise, practices differed according to experimental group as shown in table 1. Leemos el Español was used exclusively for "teacher-directed" instruction, and the outside books were used for "extended reading." The "Spanish corner" was a section of the room which contained electronic aids, reading materials, and cultural artifacts and which was used on a scheduled--though informal--basis.

Table 1

ACTIVITIES OF REGULAR
SIXTH GRADE RESEARCH GROUPS

Group	Experimental Activities
1	Automated Spanish in school
2	Extended reading in school and Automated Spanish at home
3	Teacher-directed instruction in school
4	Teacher directed instruction and use of Automated Spanish in school
5	Teacher-directed instruction in school and Automated Spanish at home
6	Teacher-directed instruction and use of Automated Spanish in school and extended reading and home
7	Teacher-directed instruction, Automated Spanish and Spanish corner in school
8	Teacher-directed instruction and Spanish corner in school and Automated Spanish at home.

Within the regular program, then, the following were used by one or more of the groups: audio-lingual drill, electronic aids, Automated Spanish, Leemos el Español, outside readers, and cultural activities. Therefore, to the extent the TC teachers used these items they were not introducing anything completely new to the project--though the method of use may have been original. Table 2 shows which of these common project activities were used by each of the TC teachers, and it illustrates clearly that most of the activities were used. The point being emphasized is that the TC teachers did not go off completely on their own and do anything which came into mind. Rather, they built on the program which was already in use. They did the same things the regular teachers did, only they did more; they added to what had already been accomplished.

Table 2

COMMON PROJECT ACTIVITIES
USED BY THE TC TEACHERS*

Item used in Activity	Teacher A	B	C	D	E	F	G
Audio-lingual drill	x		x	x	x	x	x
Record player	x	x		x	x	x	x
Single-channel tape recorder	x	x		x	x	x	x
Dual-channel tape recorder	x	x	x	x		x	x
Automated Spanish	x	x	x	x	x	x	x
Leemos el Español	x	x	x	x	x		x
Outside readers		x	x	x	x	x	x
Cultural material	x	x	x			x	x

* "x" indicates use of item

IV. ANALYSIS OF TEST RESULTS

As shown in the previous sections, the TC teachers developed a number of activities not tried in the experimental groups and they devised new methods of using the regular activities. These things were discussed in detail at the meetings of project personnel with the TC teachers, and the concensus of the group regarding their optimum uses will be detailed shortly.

First, however, the question of amounts learned by the TC teachers' pupils relative to other pupils and to each other arises. The four language skills--the ability to understand, to speak, to read, and to write--were measured through listening comprehension, speaking, and reading and writing tests developed by project personnel. Tests were administered at the end of each semester, and the test results served as dependent (or criterion) variables in the comparisons of experimental treatments. They will be so used in the analyses which follow.

The basic statistical technique used here, and thoughout the project, was covariance analysis, with pre-test score, IQ, grade-point average, and paragraph meaning score from the Stanford Achievement Test used as control variables (or covariates). Through covariance analysis, the effects of the control variables are removed, giving essentially the same result as if the groups had been matched on these variables.

Table 3 gives the results when the performance of all experimental groups combined is compared to that of the TC group. (Analysis of the speaking test did not produce a significant F and is not shown.) The means on which the analyses were based, plus the highest mean score attained by an experimental group, are shown in table 4.

Table 3

COVARIANCE ANALYSES
OF SECOND SEMESTER TESTS:
TC COMPARED TO OTHER GROUPS

Listening Comprehension Test

Source of Variation	Residual		
	Degrees of Freedom	Sum of Squares	Mean Square
Total	2,115	80,300.023	
Within Groups	2,114	79,131.008	37.432
Between Groups	1	1,169.015	1,169.015

$$F = \frac{1,169.015}{37.432} = 31.230$$

$P < .001$

Reading and Writing Test

Source of Variation	Residual		
	Degrees of Freedom	Sum of Squares	Mean Square
Total	2,115	156,920.219	
Within Groups	2,114	150,751.932	71.311
Between Groups	1	6,168.287	6,168.287

$$F = \frac{6,168.287}{71.311} = 86.498$$

$P < .001$

Table 4

ADJUSTED MEAN SCORES
ON THE SECOND SEMESTER TESTS

	Mean Score		
	TC	Combined Experimental	Highest Experimental
Listening Comprehension	35.932	32.574	33.735
Reading and Writing	25.220	17.527	20.017
Speaking	22.870	21.796	24.787

Table 5

COVARIANCE ANALYSES
COMPARING CLASSES IN THE TC GROUP

Test	F-Ratio	DF	Probability
First Semester:			
Listening Comprehension	1.431	6/171	>.05
Reading and Writing	6.210	6/170	<.001
Speaking	2.522	6/65	<.05
Second Semester:			
Listening Comprehension	1.820	6/172	>.05
Reading and Writing	3.166	6/164	<.01
Speaking	1.601	6/59	>.05

The analyses in table 5 show that there were no significant differences among the TC classes on either listening comprehension test nor on the speaking test the second semester. Significant differences did occur on the speaking test the first semester and on both reading and writing tests. The differences were rather large in the area of reading and writing. Adjusted mean scores on each of these tests for classes of each of the TC teachers are given in table 6.

Table 6

ADJUSTED MEAN SCORES
OF CLASSES IN THE TC GROUP

Test	Teacher						
	A	B	C	D	E	F	G
First Semester:							
Listening Comprehension	33.825	35.559	35.115	32.711	34.204	35.447	33.121
Reading and Writing	28.865	30.423	30.295	27.150	27.428	26.192	21.105
Speaking	15.996	16.203	15.414	17.759	13.905	16.474	18.054
Second Semester:							
Listening Comprehension	35.891	38.305	35.275	34.083	35.325	35.600	36.152
Reading and Writing	23.986	30.556	25.156	20.501	25.451	27.099	22.304
Speaking	23.368	24.075	21.047	24.117	20.769	24.417	22.804

Considering the overall results in table 6, it is apparent that teacher B's pupils performed best, with those of teacher F a fairly close second. Otherwise, the results are not consistent in that high performance on one language skill does not relate to high performance on another. (Remember that comparisons are relative only to scores within the TC group; most "low" scores here are higher than any attained by a regular experimental group.) On the reading and writing tests, the classes of teachers C and E did especially well while those of teachers D and G did better than the other on speaking. It is especially interesting that the latter group--the pupils of teachers D and G--were among the "lowest" on reading and writing, and the former--pupils of teachers C and E--were among the "lowest" on speaking. In other words, it appears that teachers C, D, E, and G emphasized one skill to the relative detriment of another.

As mentioned previously, it is impossible to relate the results above to any specific activity of the teachers involved. In general, it is noteworthy that neither teacher B or F spoke Spanish natively or had a Spanish minor in college--both suggested prerequisites according to some authorities in the field.

What B and F did have in common was that both made extensive use of electronic aids and they invented and used reading and writing drills which involved considerable writing on the part of the children. Otherwise, the most important thing these results show is that, while there seems to be a natural tendency to emphasize one or two of the language skills, excellent results can be obtained in all skills through careful balancing of the language program.

A comparison of the mean scores in table 6 with those in table 4 will show that all of the TC teachers did quite well in comparison to those of the regular groups. This must be remembered in interpreting the immediately preceding paragraphs. Since all of the TC means were higher than the average attained in a good program, the top figures in table 6 represent truly outstanding performance.

V. COMMENTS AND RECOMMENDATIONS OF THE TC TEACHERS

As mentioned earlier, joint meetings of the TC teachers and some of the project staff were held during the year. At these meetings, each teacher described the specific practices he was using or had used, and the different ideas were considered at length--by the total group--in the light of the year's experience. The final result of this was a series of recommendations relating to the Spanish program. In light of the preceding analyses, which clearly demonstrate the excellent teaching job done by the TC group, the recommendations deserve the most careful attention. They were given, of course, in the context in which the TC study occurred--that is, as an addition to the much larger formal research project--and complete understanding of them is no doubt dependent on knowledge of other project activities.

a. Audio-Lingual Instruction

The need for variety was stressed in discussing audio-lingual instruction. The group agreed that structure drills are most important and should serve

as the basis for the face-to-face audio-lingual practice in the classroom. These drills soon bore children, however, and a sharp drop in interest results if they are used exclusively.

Dialogue drills are helpful and provide variety, as do songs, games, and dramatizations. It is important for the children to work together on these things and to speak Spanish to each other. Such devices as toy telephones, with which children take part in pretended calls, are helpful. One teacher had the children make up Spanish commercials similar to the ones they see on television.

Tape recorders, especially, were found useful. They allow the child to record and then listen to his own voice, and in this way pronunciation can be improved. Dual-channel recorders generally were preferred to the single-channel ones. Single-channel recorders were used largely for recording of group activities such as songs, dialogues, etc., while the dual-channel recorders were preferred for individual work. With a dual-channel recorder, a master voice can be recorded and the pupil can repeat and then listen to both the master voice and his own performance. A great advantage is that pupils can work with earphones and improve pronunciation while not disturbing the remainder of the class. Two of the teachers devised the tape loop for use with the dual-channel recorder. This allows a master voice and pupil performance to be repeated without rewinding the recorder.

Another advantage of the tape recorder is the interest it arouses in the pupils, especially the boys. They are fascinated by simply working the machine and will spend a good deal of time with it with no encouragement.

The two Reflection machines created great enthusiasm. The single-channel machine works like the dual-channel recorder with a loop, but it has the advantage of allowing much longer tapes to be used. The dual Reflection machine proved so fascinating to the pupils that teacher D had to schedule it carefully to assure every pupil his fair amount of time.

It created problems in that the pupils preferred working with it to any of their other school work. The dual Reflection machine is, in fact, an oral teaching machine. It can be programed in segments as long as 15 minutes, and it works in such a way that the pupil can repeat a language element, while comparing with the master voice, until he pronounces it to his satisfaction and can then advance the machine to the next element and repeat the process. The teacher prepared the programs himself, of course, and he tailored them to the needs of his particular class. The machine undoubtedly has great possibilities, but its cost is a major problem.

b. Reading and Writing Instruction

The group unanimously agreed that the automated materials are very useful. Project personnel were considerably surprised at the final meeting with the TC group in May to learn that no pupil in any of the TC classes had gone beyond the third book of Automated Spanish, i.e., beyond 2000 frames. In fact, most of them were just beginning the third book. This was surprising because a number of other teachers had requested the fourth book a month or two earlier.

Why had pupils of the TC teachers not advanced further in the automated materials? It seems that each TC teacher decided independently that--although the automated materials are interesting to the children and are excellent teaching devices--these materials will not do a complete job in teaching Spanish reading and writing. And, though all continued to use the automated materials, they added other practices designed to provide variation and adjust the instruction to meet the specific individual needs of their respective pupils. In doing so, they did not spend as much time with automated instruction as the others. Consequently their pupils did not get as far.

The group agreed that letting each child go all the way through the automated materials at his own rate is undesirable. Some children may learn

more this way, but the teachers felt that they could not handle their own group instruction effectively when there was the resulting wide range in the amount of automated material each child had covered. They therefore recommended that the automated materials be arranged in individual lessons of about 50 frames each. (The present books could be arranged in this way very easily.) Then a specific lesson would be assigned for all of the children to complete in the classroom in a certain time period. This material would serve as the basis for the face-to-face group instruction to follow.

Leemos el Español would also fit into this pattern, but it would have to be rewritten. Leemos was very useful in that it presented the material in short, interesting stories, and it included drills which the children like to work. At present, however, Leemos does not correlate with the automated materials exactly. The total content covered is the same, but it is not in the same order. The recommendation was that Leemos be rewritten in lessons which would follow the proposed 50-frame segments in the automated books. The teacher could then use Leemos as a follow-up to the automated lesson. The same material would be covered, but it would be varied in an interesting way and would allow application of lesson content in different situations. This arrangement would also give the teacher more flexibility in adjusting the instruction to individual weaknesses discovered in going through the automated booklets.

It was also agreed that workbooks providing a number of drills on the lesson material would be desirable. (One teacher actually prepared such a workbook for use with his pupils.) This workbook would contain, among other things, exercises requiring the children to read aloud and would establish more firmly the connection between the spoken and written word.

All of the teachers agreed that the failure in the regular program to connect spoken and written Spanish more firmly was a major weakness. The

two aspects of Spanish were handled as separate entities--with audio-lingual practice restricted to specific times, and reading and writing practice, on entirely different subject matter, handled at other times. They felt this was an artificial distinction. The spoken and written word are but two aspects of the same thing and should be handled together. Every TC teacher felt strongly about this matter, and a review of the specific practices followed will show that almost every one of them devised some means of overcoming this problem. More often than not the solution was to read aloud from the automated booklets or Leemos el Español. A possible solution would be a workbook with special drills and with a record or tape which would be used in conjunction.

Spelling lists with occasional quizzes can be used as a variation on the reading and writing instruction. At least three of the teachers used these and felt them to be very helpful.

The outside books, especially the Children of the Americas series, were felt to be very helpful. Children enjoyed reading stories, and these books gave them the opportunity.

Some means of giving Spanish current appeal was also mentioned. One possibility here would be to establish contact with children in the Latin American countries and correspond with them in Spanish. Another would be to print (perhaps with a mimeograph) a newspaper locally and include news of the schools and local city and state as well as of the nation.

The group stressed the need to let the children do things together as much as possible, to allow them to teach themselves to communicate in Spanish. A useful device is to let them write stories and plays together. Another is to let them dictate to each other. These allow practice in speaking and writing, establish the connection between the spoken and written word, and let each child hear a number of people other than the TV and classroom teachers speak

Spanish.

c. Motivation

The TC teachers stressed that children must be motivated if they are to do their best work, and a number of techniques for providing motivation were mentioned. Among these was the stress on different cultures. Children are very interested in people of other countries, and they enjoy learning about them. Most of the teachers set up cultural corners or tables and worked with the children in arranging these. Maps of Latin American countries would be placed there together with objects from these countries. Slides and movies taken during visits to one of these countries would be shown. The children are also interested in Spanish influences on our own culture in the United States.

The child's motivation is directly related to that of his parents, of course, and the TC teachers found ways to get parents involved in the program. They would plan plays and programs for the parents to see. They would have their Spanish classes participate in school activities such as carnivals.

d. Other Suggestions

Some of the TC teachers had the children for all subjects during the school day, that is, they were their regular teachers, and some only had them for Spanish. All agreed that having them the rest of the time is desirable. For one thing, rapport is not so much a problem. For another, scheduling of additional activities such as use of the tape recorders and free reading is much easier. Finally, in many other subjects, such as arithmetic, geography, and reading, Spanish can be made more meaningful than when used exclusively in the formal Spanish sessions.

The teachers felt that visuals are very important in an elementary school language program and that more should be provided. A specific suggestion was that simple line drawings similar to those used in the Spanish tests in Denver be provided on large cards, with a smaller version and identifying words on the back.

It was agreed that the stigma should be removed from translation. The concensus was that instruction should be in Spanish as much as possible, but that occasionally some limited translation was needed to provide meaning. A dialogue can be memorized, for example, without the one memorizing it knowing what he is saying. This type of thing was felt to be useless. Language is used to communicate, and learning to communicate must be the primary purpose of language instruction. Correct pronunciation and grammer are highly desirable but still secondary to communication itself.

The teachers expressed a need for a workshop not dealing so much with formal instructional aspects. The formal aspects are important and should be stressed in the first workshop attended by teachers. After a year's experience teaching Spanish, however, the teachers have many ideas about things they specifically need. They felt they should be given a chance to work on the things they need, to prepare special materials, for example, and to work on individual weaknesses. They also reported that they would like to have college credit for this type of workshop.

V. IMPORTANCE OF THE TEACHER

During the course of the project, a large number of teachers has been involved. Some have been very effective while the effectiveness of others has left much to be desired. Some have majored in Spanish in college and have had extensive experience teaching it while others have had no preparation. Some were very enthusiastic while others reported they had been more or less forced into teaching Spanish. In other words, the teachers represented the full range in each category identified.

After working with the TC teachers and observing a number of others, the project directors feel confident in stating that the most important single ingredient in addition to the televised lessons in this foreign language

program has been the classroom teacher. An enthusiastic teacher can do wonders while a bored teacher produces bored pupils. It has been proved conclusively that a teacher with no training or prior experience can do a very effective job simply be being interested and by showing that his interest is where it should be--in teaching children. If a teacher goes into this program with enthusiasm and works at it, he can learn enough in one year to qualify him as a very adequate team member. After all, in televised instruction the leader of the team is the television teacher. Thus, the role of the classroom teacher is very different than if he or she were responsible for the basic instruction.

Teacher D, for example, had no college work in Spanish and had never taught it before entering the program two years earlier. He would obviously not have been capable of providing the basic instruction. Yet, as a team member he was very effective and it was a pleasure to visit his class. He was enthusiastic about the program, and his enthusiasm and interest were picked up by the children. He worked hard, and he did an excellent job. He and other like him are proof that the attitude of the teacher is extremely important. The motivational role of the teacher in the use of the newer media cannot be overemphasized--this seems to be especially true when young children are involved.

We were very fortunate in having seven excellent teachers in the TC program, and experience with them has shown what a teacher with the right attitude can do. What we have found is not magic by any means, but it can seem to work magic if used correctly.

VI. CONCLUSION

The Tomorrow's Classroom study in the final analysis accomplished its purpose, for it clarified certain things about the classroom of the future and revealed ways to improve the instruction of Spanish. The context of the

TC study should be reemphasized, however. This group of teachers operated as an addition to the formal experimental design. The television lessons provided the basic instruction in their classes as in the others, and they were concerned with building a program around the TV. The devices and techniques they used included those also being used in the formal study. Therefore, they added to what was learned experimentally. They built onto, rather than apart from, the regular program, and their remarks and recommendations must be taken in this context.

Their comments relative to the type of elementary school Spanish program developed in the Denver-Stanford project can be briefly and generally summarized as follows:

Audio-Lingual Instruction:

- Variety is the key to success in the face-to-face, teacher-directed audio-lingual instruction. Structure drills are the most effective single activity here, but these must be balanced with dialogue drills, songs, games, dramatizations, and the like if the child's interest is to be maintained.

- Electronic aids are valuable, though different types are helpful in different ways. Record players and single-channel tape recorders contribute most to activities engaged in by the whole class. Dual-channel tape recorders and oral programing devices are most useful when used on an individual basis by pupils.

- Pronunciation can be improved rapidly if the pupil is able to hear himself speak and immediately compare his performance to that of a native speaker. This is most easily accomplished with dual-channel recording devices.

- Pupils need extensive practice in communicating with other people in the second language. Activities such as pretended telephone conversations and dictation, in which they listen and speak to each other, are most helpful in this regard.

Reading and Writing Instruction:

- Automated materials are of great value, but they cannot carry the complete instructional load. Variety of instructional procedures is as important in reading and writing as in audio-lingual instruction.

- Reading and writing should be taught through a program which integrates several instructional devices into one planned sequence. One such device would be short--about 50-frame--automated units, which would give basic instruction and which could be completed in a few minutes. The lesson

content would then be varied and expanded through a workbook containing short stories, written drills, and exercises requiring children to read aloud.

- A further useful addition to the formal instructional package would be occasional (once a week, perhaps) spelling drills.

- Interest in reading is stimulated and reading skills are improved through use of elementary readers, providing the stories they contain are geared to the sixth grade audience both in difficulty level and content. Newspapers can also be useful in this regard.

- The written and spoken word should be taught together so far as possible and artificial distinctions between them eliminated. The connection between them can be emphasized through such things as dictation, reading aloud, and written drills coordinated with sections of phonograph records.

Other:

- Motivation and interest are stimulated through studying about peoples and customs of Spanish-speaking countries, particularly those of Latin America, and about Spanish influences in the United States.

- Foreign language can be varied and made more meaningful by combining it with instruction in other subject areas, such as geography, social studies, and arithmetic.

- An evening television program, to be viewed at home, is desirable. Its value can be increased, however, by making it original rather than a repeat of the program seen during the instruction period at school. The program could be more informal, for example, with more emphasis on cultural matters.

- Instruction should be in the second language so far as possible, though translation should not be regarded as a violation of holy writ. Translation is sometimes the most efficient way to clarify meanings.

- Flexibility in instruction procedures is of prime importance because it allows adjustment to particular individual and class needs. Flexibility should thus be an objective in developing procedures.

The particular methods by which the TC teachers put these recommendations into effect are detailed in preceding sections of this report.

Perhaps the two most important general things the TC study showed about the classroom of the future are that, to some extent at least, instruction must be tailored to individual needs, and, the corollary, the classroom teacher will retain an essential place in education. Television, automated instruction, phonograph records, and, in fact, anything prepared for mass consumption are impersonal in themselves, and they can be made otherwise only by the way they

are used. Part of the success of the TC teachers undoubtedly stems from the fact that they devised effective ways to use such mass consumption items in their own particular classes. Their remarks make clear that they were individualizing the instruction and the test results attest to the value of this aim.

The materials and methods the TC teachers developed are interesting and important per se, but even more important are the reason for their development--so that each pupil would learn as much as possible through the total resources at hand. At present and in the foreseeable future, this goal apparently can be accomplished only through instruction individualized by a classroom teacher.

Notes and References

(1) For a description of the automated materials and the way they were prepared see: Barcus, Delbert L., John L. Hayman, Jr., and James T. Johnson Jr., "Development of Programed Learning Materials for Use with Televised Spanish Instruction," Denver-Stanford Project on the Context of Instructional Television, report number 4, Denver, Colorado: Title VII Office, November, 1961, (Mimeo).

(2) La Luz is published by Banks Upshaw and Company, a division of the National Textbook Corporation, 4761 West Touhy, Lincolnwood, Illinois